

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A method for controlling the
2 sampling of addressed data, the method comprising:
3 a) determining a state of next hop information
4 defining a destination for samples of addressed data;
5 b) if it is determined that the state of the next hop
6 information is stable, then
7 i) generating samples from the addressed data,
8 and
9 ii) forwarding the samples based on the next hop
10 information; and
11 c) if it is determined that the state of the next hop
12 information is not stable, then not forwarding
13 samples.

1 Claim 2 (original): The method of claim 1 wherein the act
2 of not forwarding samples includes dropping samples
3 generated.

1 Claim 3 (original): The method of claim 1 wherein the act
2 of not forwarding samples includes suppressing sample
3 generation.

1 Claim 4 (original): The method of claim 1 wherein the
2 addressed data are packets.

1 Claim 5 (original): The method of claim 1 wherein the next
2 hop information includes an index or name associated with
3 an interface.

1 Claim 6 (original): The method of claim 5 wherein a link
2 terminated by the interface defines a point-to-point
3 connection with a sample destination device.

1 Claim 7 (original): The method of claim 1 wherein the next
2 hop information is associated with an interface.

1 Claim 8 (original): The method of claim 7 wherein a link
2 terminated by the interface defines a point-to-point
3 connection with a sample destination device.

1 Claim 9 (original): The method of claim 1 wherein the next
2 hop information is associated with a next hop destination
3 address.

1 Claim 10 (original): The method of claim 1 wherein the act
2 of determining a state of next hop information defining a
3 destination for samples of addressed data includes reading
4 a state flag.

1 Claim 11 (original): The method of claim 10 wherein the
2 state flag is stored in a hardware register.

1 Claim 12 (original): The method of claim 1 wherein the act
2 of generating samples from the addressed data is performed
3 based on parameters.

1 Claim 13 (original): The method of claim 12 wherein the
2 parameters are user configured.

1 Claim 14 (original): The method of claim 13 wherein the
2 parameters include at least two parameters selected from a

3 group of parameters consisting of (a) sampling rate, (b)
4 class to be sampled, (c) protocol to be sampled, and (d)
5 run length.

1 Claim 15 (original): The method of claim 1 further
2 comprising:

3 d) counting some parameter of samples forwarded.

1 Claim 16 (currently amended): A method for maintaining
2 information used to control ~~the~~ sampling of addressed data,
3 the method comprising:

4 a) determining a state of next hop information
5 defining a destination for samples of addressed data;
6 and

7 b) if it is determined that the state of the next hop
8 information is unstable, then ensuring that
9 information used to control the sampling of addressed
10 data indicates that the next hop information is
11 unstable.

1 Claim 17 (original): The method of claim 16 further
2 comprising:

3 c) if it is determined that the state of the next hop
4 information is stable, then ensuring that the
5 information used to control the sampling of addressed
6 data indicates that the next hop information is
7 stable.

1 Claim 18 (original): The method of claim 16 wherein the
2 information used to control the sampling of addressed data
3 is stored in a hardware register.

1 Claim 19 (original): The method of claim 16 wherein the
2 information used to control the sampling of addressed data
3 includes next hop information and next hop state
4 information.

1 Claim 20 (original): The method of claim 19 wherein the
2 next hop information includes an index or name associated
3 with an interface.

1 Claim 21 (original): The method of claim 20 wherein a link
2 terminated by the interface defines a point-to-point
3 connection with a sample destination device.

1 Claim 22 (original): The method of claim 19 wherein the
2 next hop information is associated with an interface.

1 Claim 23 (original): The method of claim 22 wherein a link
2 terminated by the interface defines a point-to-point
3 connection with a sample destination device.

1 Claim 24 (original): The method of claim 19 wherein the
2 next hop information includes a next hop destination
3 address.

1 Claim 25 (original): The method of claim 16 wherein the
2 addressed data are packets.

1 Claim 26 (currently amended): A method for maintaining
2 information used to control the sampling of addressed data,
3 the method comprising:

4 a) accepting configured next hop information;

5 b) determining next hop interface information from
6 the accepted configured next hop information;
7 c) determining a state of the next hop interface
8 information; and
9 d) storing the determined next hop interface
10 information and the state of the next hop interface
11 information.

1 Claim 27 (original): The method of claim 26 wherein the
2 next hop interface information is an index or name
3 associated with an interface of a router.

1 Claim 28 (original): The method of claim 26 wherein the
2 next hop interface information is an index or name
3 associated with a logical interface of a router.

1 Claim 29 (original): The method of claim 26 wherein the
2 act of determining next hop interface information from the
3 accepted configured next hop information uses information
4 in an interface list of a router.

1 Claim 30 (original): The method of claim 26 wherein the
2 act of determining a state of the next hop interface
3 information uses information in a forwarding table of a
4 router.

1 Claim 31 (original): The method of claim 26 wherein the
2 act of storing the determined next hop interface
3 information and the state of the next hop interface
4 information includes writing the next hop interface
5 information and the state of the next hop interface
6 information into at least one hardware register.

Claims 32 and 33 (canceled)

1 Claim 34 (currently amended): A machine-readable medium
2 having machine-readable data structures stored thereon, the
3 machine readable data structures comprising:

4 a) at least one parameter for controlling the
5 sampling of addressed data;

6 b) information identifying a next hop destination of
7 samples of addressed data;

8 c) information identifying a state of the information
9 identifying a next hop destination of samples of
10 addressed data; and

11 d) a forwarding table,

12 ~~The machine-readable medium of claim 33~~ wherein the
13 forwarding table includes a plurality of entries, each of
14 the plurality of entries including a next hop index and a
15 next hop interface.

1 Claim 35 (original): The machine-readable medium of claim
2 34 wherein each of the plurality of entries of the
3 forwarding table further includes a next hop address.

1 Claim 36 (original): In an addressed data forwarding
2 device, apparatus comprising:

3 a) a storage device for storing

4 i) next hop information defining how samples
5 generated from addressed data are to be
6 forwarded, and

7 ii) an indicator for indicating a state of the
8 next hop information; and

9 b) a sampling facility for generating samples from
10 the addressed data and for forwarding the generated
11 samples based on the next hop information,
12 wherein, if the indicator indicates that the
13 state of the next hop information is not stable, then the
14 sampling facility will not generate and forward samples.

1 Claim 37 (original): The apparatus of claim 36 wherein the
2 storage device is a hardware register.

1 Claim 38 (original): In an addressed data forwarding
2 device, apparatus comprising:
3 a) a storage device; and
4 b) a sampling control facility for determining a
5 state of next hop information defining a destination
6 for samples of addressed data, and
7 storing, in the storage device, an indicator of
8 whether or not the state of next hop information is
9 stable.

1 Claim 39 (original): The apparatus of claim 38 wherein the
2 storage device is a hardware register.

1 Claim 40 (original): The apparatus of claim 38 further
2 comprising:
3 c) a sampling facility for generating samples from
4 the addressed data and for forwarding the generated
5 samples based on the next hop information, wherein, if
6 the indicator indicates that the state of the next hop
7 information is not stable, then the sampling facility
8 will not generate and forward samples.

1 Claim 41 (original): The apparatus of claim 39 wherein the
2 sampling facility is an integrated circuit.

1 Claim 42 (original): An addressed data forwarding device
2 comprising:

3 a) a first storage device for storing forwarding
4 information;

5 b) a forwarding facility for forwarding addressed
6 data based on information in the addressed data and
7 based on forwarding information stored in the first
8 storage device;

9 c) a second storage device for storing

10 i) next hop information defining how samples
11 generated from addressed data are to be
12 forwarded, and

13 ii) an indicator for indicating a state of the
14 next hop information; and

15 d) a sampling facility for generating samples from
16 the addressed data forwarded by the forwarding
17 facility and for forwarding the generated samples
18 based on the next hop information,

19 wherein, if the indicator indicates that the
20 state of the next hop information is not stable, then the
21 sampling facility will not generate and forward samples.

1 Claim 43 (original): The addressed data forwarding device
2 of claim 42 wherein the second storage device is a hardware
3 register.

1 Claim 44 (original): An addressed data forwarding device
2 comprising:

3 a) a first storage device for storing forwarding
4 information;
5 b) a forwarding facility for forwarding addressed
6 data based on information in the addressed data and
7 based on forwarding information stored in the first
8 storage device;
9 c) a second storage device; and
10 d) a sampling control facility for determining a
11 state of next hop information defining a destination
12 for samples of addressed data, and
13 storing, in the storage device, an indicator of
14 whether or not the state of next hop information is
15 stable.

1 Claim 45 (original): The addressed data forwarding device
2 of claim 44 wherein the storage device is a hardware
3 register.

1 Claim 46 (original): The addressed data forwarding device
2 of claim 44 further comprising:
3 e) a sampling facility for generating samples from
4 the addressed data and for forwarding the generated
5 samples based on the next hop information, wherein, if
6 the indicator indicates that the state of the next hop
7 information is not stable, then the sampling facility
8 will not generate and forward samples.

1 Claim 47 (original): The addressed data forwarding
2 facility of claim 46 wherein the sampling facility and
3 forwarding facility are defined by an integrated circuit.

1 Claim 48 (new): The method of claim 1 wherein the samples
2 are network analysis samples.